Non-Contact Warfare: A Strategy for Future

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Abstract

Examining events after World War II shows that the emerging technological environment is shaping the future. The shift in operational doctrine from 'massing of forces' to 'massing of effects' with a quantum reduction in physical contact between adversarial forces has been scripted. Future conflict trends are likely to be diffused, diverse and disruptive. Expanding security-arena from traditional to non-traditional domains necessitates a nuanced doctrinal approach. The escalation levers are looking at non-military and military means of contestation.

No Peace Prophecy

War is the product of its age. World War II witnessed various strategies the Allied and Axis powers adopted. Germany relied on 'blitzkrieg' to exploit the enemy's weak spot through speed and surprise. The Soviets used amassing of forces for their deep battle manoeuvres, while the US and the western allies relied on disproportionate use of force. The nuclear bomb ended the deadly World War II but opened the world to a new form of war. In 1945 George Orwell coined the term 'Cold War' and

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predicted that nuclear arms might end large-scale wars, but the world will witness a "peace that is no peace."[1] Tracing and tracking doctrinal development as a precursor to technological development shows a new paradigm where technological development is tripping doctrinal and strategic formulations in the new age.

Cold War Foundations—War Under Nuclear Overhang

The end of World War II saw the world bracing with economic distress and decolonisation. Neo-colonisation themes by the US and the USSR revolved around the economic revival of the impoverished, newly independent, decolonised nation. The Americans 'Marshall Plan' and the Soviets 'Molotov Plan' used economic gratification to operationalise political warfare. These competing powers aimed at creating surrogate and client states. The Bretton Woods monetary system, through the World Bank and the International Monetary Fund (IMF) creation, set the stage for the containment strategy. Dominance through developmental economics gave rise to competition, rivalry, and conflict while dividing the world along ideological grounds. Economic gratification was enmeshed with the intelligence operation for regime control. Revolutionising military space through technology was given greater importance than the economic space. 1949 nuclear explosion by the Soviets changed the perception of the western powers regarding the cost of nuclear misadventure.

The 1950 Korean War was the first war that tested the nuclear deterrence dilemma. The 'Truman Doctrine' of restraint paved the way for limited war under a nuclear overhang. Though the conflict ended with a stalemate, it intensified the space and the nuclear arms race. The need to communicate and engage at longer ranges overseas spurred space and under-sea communication explosions, thus laying the foundation for intercontinental ballistic missile (ICBM) technology. The competition was keenly matched with the Soviet Sputnik 1 launch on October 4,

1957, and American Explorer 1 launch on March 31, 1958, followed by manned space missions in 1961-62.

Soviet's downing of the US U-2 spy plane during the same period gave birth to satellite killer programmes in both countries. The Soviet engineers drew blueprints of satellite killers based on the threat from spy satellites, while the Americans developed the Satellite Interceptor or SAINT project.[2] As part of risk mitigation, the US developed and deployed the long-range surveillance drone, 'Lightning Bugs,' which could be launched from the wings of a Lockheed DC-130 Hercules aeroplane and controlled by onboard Airborne Remote Control Officers.[3]

The 1962 Cuban missile crisis raised the risk of deterrence by denial or punishment.[4] It also unveiled a dissuasion strategy while dealing with peer rivals. It also triggered the need for networking the geographically displaced nuclear assets within the US. The ARPANET, a pioneering network for sharing digital resources among geographically separated computers, was conceptualised. By 1968 the first routers were made, leading to the internet's birth in 1969. During this period, the ICBM technology also matured, leading to a spurt in treaties related to Outer Space (1967), Seabed Arms Control (1971), Anti-Ballistic Missile, and Strategic Arms Limitation Treaty (SALT) (1972). All the treaties as part of lawfare were meant to create an exclusive club for resource control besides denying access to the other technologically inferior countries.

The 1970s witnessed the US misadventures in Vietnam and the Soviets in Afghanistan. The strategists were compelled to give a denovo look to the warfighting through the prism of Revolution in Military Affairs (RMA). Marshal Nikolai Ogarkov, the Chief of the General Staff of the Soviet Union, introduced the term "reconnaissance-strike complex". It was premised on the developing precision, non-nuclear destruction systems with increased strike efficacy closer to nuclear weapons.[5] Andrew Marshall, who headed the US Office of Net Assessment, concurred with the idea and believed that these capabilities

could revolutionise how wars will be waged.[6] The need to work through the shadows of nuclear catastrophe laid the foundations for generational warfare in the form of small wars and fourth-generation warfare[7] with non-state actors as anonymous agents. In contrast, the fifth-generation warfare looked at targeting people and the political will through the world's disaffected.[8]

By the mid-1970s, state-funded science and technology research with government and military patronage gave roots to the civil enterprise. By 1975 start-up IT companies mushroomed. Programmers like Bill Gates and Paul Allen founded Microsoft, and Steve Jobs and Steve Wozniak founded Apple Computer Company. They aimed to provide "a computer on every desktop and in every home". The next decade saw the emergence of the information age. The space race pandemonium and the ability to mount surveillance to remain ahead in the strategic awareness game transformed information and communications technologies (ICT), leading to the unveiling of the Strategic Defence Initiative (SDI), commonly called the 'Star Wars' programme. The US Defence Advanced Research Projects Agency (DARPA) revolutionised digital network systems. Global Positioning System (GPS) added to intelligence and precision warfare. However, it gave the civil world an idea to adapt and monetise military technology for civil use. The dual use also set the pace for civil-military collaboration and heightened the arms race.

The Pentagon report, 'Soviet Military Power 1985', flagged excessive Soviet military expenditure of almost 15-17 per cent of the Gross National Product despite the strain on the Soviet economy due to the 1981 oil glut. It prompted the Office of Net Assessment (ONA) under Andrew Marshal to forecast the collapse of the Soviet Union. The 1989 Berlin Wall collapse set the Soviet implosion into motion. Political scientists championed the role of geo-economics in shaping the world order. For the first time, the non-contact alternate means of warfare led to the capitulation of a superpower. Though the 'end state' was defined

by economics, the 'means' was triggered by technological innovation, and the world witnessed more of it in the post-Cold War era.

Post-Cold War Future Manifestation

Weaponising Protests. The ideological drawdown in Moscow created waves in Chinese Tiananmen Square in April 1989. The defiant "Tank Man" image atop the Chinese Peoples' Liberation Army (PLA) tank that went viral on June 5, 1989 signified the suppression and oppression committed by the Communist Party of China (CPC) and the PLA. The protests kept China on the verge of social disobedience for seven weeks. The unarmed struggle in Tiananmen gave fodder for future discourse to social scientists like Gene Sharp, who, in his book 'There Are Realistic Alternatives', lists 198 methods to generate pressure on the politico-military combine. The advent of mobile phones and the internet in 1991 created a networked society. Gene Sharp's strategy of leveraging the people to paralyse the governance structure was effectively used during the 2010 Arab Spring revolution in North Africa and West Asia and the Colour Revolution in post-Soviet Eurasia. Disinformation became a tool to create the necessary divide, discord and disruption.

Repurposing Technologies. 9/11 compelled Washington to review its policy on terrorism. For the first time, the non-state actor, Al Qaeda, led by Osama bin Laden, used Taliban-ruled Afghanistan as a proxy for sponsoring their activities. 9/11, for the first time, pitted the organisational strength of the armed non-state actors in dealing with networked and hierarchically controlled armed forces. The traditional weapons were replaced with modified aeroplanes. Shaping public opinion became essential for both sides to garner local support in countering terrorism or fuelling the insurgency. Osama's brief television appearances boosted his fighters' morale and influenced Muslims worldwide. The surveillance platforms like unmanned drones were converted to combat platforms like Predators.[9] The asymmetric warfare methods of reduced

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risk at combat and new media tools inspired other terrorist organisations like the Islamic State of Syria and Levant (ISIL). They used viral social media messaging to capitulate the Iraqi forces equipped with American weapons in the battle of Mosul in 2014. Technology drove both terrorists and armies alike to devise new tactics.

Situational Awareness—Interpreting and Interrupting Patterns. 2003 Gulf War 2 demonstrated the swiftness of ground operations under absolute air supremacy. It gave rise to the 'Time-Sensitive Targeting' concept based on situational awareness and precision-guided munitions (PGM).[10] CIA intelligence operatives were engaged in direct action, including sabotage operations inside Iraq, before the main offensive. Russia effectively employed the lessons from this war in the 2014 Crimean conflict. Green Berets influenced the referendum for Crimean secession from Ukraine. At the same time, the electronic eclipse over Ukraine ensured a lack of situational awareness as no UAVs could take off, and smart bombs turned into duds.

Future Generations of Warfare. Russian military analyst Maj Gen Vladimir Slipchenko, in the aftermath of Desert Storm in 1991, spoke of "no-contact warfare" as the optimal form for sixth-generation warfare.[11] According to him, new technologies like electronics, information and communications will be used to defeat the opponent's armed forces within their territory by subverting or changing the adversary's political system.[12] He made a compelling case for C4ISR with a blurring distinction between combatants and non-combatants.[13] Given the technology development landscape, the seventh-generation war will be about automated warfare with augmented reality guided by quantum communications and artificial intelligence (AI). The Deep Learning

algorithm is likely to define eighth-generation warfare as attempts will be made to breach the cognitive frontiers. It will aim at incapacitating responses and actions of the leaders, systems and the population.

The post-Cold War era has proved that the international system will remain anarchic, and war is always possible within nuclear overhang. Small wars, proxy wars, and the new non-contact warfare filled the space between stable peace and nuclear wars in the continuum of conflict. These wars questioned the global systems and employed the tools of their time to contest the opponents. It raises a pertinent question concerning the nature of war. It also focuses on how technologies and new actors like armed non-state actors and civil security firms will alter the character or methods of warfighting. The 'massing of force' gives way to the 'massing of effects,' which opens up new domains to conflict. The expanding security domains from traditional to non-traditional will affect the engineering of chaos and conflict. The essential question of attaining victory or winning along the escalation ladder will determine the quantum of the force application.

The Future Conflict Trends

The threats, aspirations, and balance of power have remained the key ingredients to fuel competitions, rivalries, and conflicts. Technology is at the centre stage of driving the policies or strategies for the contest. The future battlefield environment appears to be diffused, diverse, and disruptive amidst deterrence disappearance.

- **Diffuse.** The accessibility to war instruments is no longer the exclusive preserve of the state. The need to prosecute hybrid, non-contact and unconventional wars has led the state to distribute weapons to non-state and sub-state entities (terrorist groups, criminal networks, insurgent forces, mercenaries, and private corporations). Hence, the distinctions between combatants and non-combatants are getting blurred. Houthi rebels from Yemen have shown their ability

to puncture the air defence umbrella of Saudis and UAE. The recent Taliban takeover of Kabul showed how a militia could defeat the Army of the state, the Afghan National Army.

- **Diverse.** The urge to influence operations and reduce combat risk has given rise to non-contact warfare. Escalation levers created by the state in the sub-conventional and non-traditional domains are increasingly used as leverages. The means of conflict now vary across a wider spectrum—ranging from 'non-military' to military capabilities. Economic coercion, cyber-attacks, and information operations as non-lethal means are deployed at the lower end of the conflict spectrum, while advanced precision and long-rage conventional weapons and weapons of mass destruction (WMD) are being developed as a measure of dissuasion and deterrence at the higher end. The diverse contest methods across multiple domains can be seen in the current Russo-Ukraine conflict, where businesses and commodities can be weaponised, and alliances can be fractured.
- **Disruptive.** There is an increasing emphasis by states and terrorist groups on disrupting critical infrastructure, societal cohesion, and government functions rather than defeating enemy forces on the battlefield through traditional military means. The disruption spectrum can range from deception, denial, and distortion to destruction. The civil-military fusion being practised by the leading powers adds ambiguity and increases the threat of incognito operations.
- **Deterrence Disappearance.** The investment by nations in strategic intelligence capacity to see underground and underwater has the potential to make triad assets visible to adversaries. Such an eventuality will undermine the second-strike nuclear capabilities and is likely to trigger a review of nuclear doctrine from 'No First Use' to pre-emption. Any such change will adversely affect strategic stability. The deterrence in the non-nuclear arena calls for a large investment to build non-nuclear deterrence capabilities in biomaterials, nuclear-

electronic attacks or cyber-physical attacks, which can plunge society and governance into chaos.

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Non-Contact Warfare as a Strategy for Future

The strategy development has moved to technology-induced warfare. "Influence Warfare" riding on the internet of things (IoT) backbone aided by the convergence of smartphone platforms is likely to see a change with quantum technologies and AI development. The future of situational awareness and decision-support systems will be transformed by edge computing. Cyberspace and outer space will gain prominence, and sovereignty overlays are set to expand from the physical to the virtual realm. Countries like China have already devised a strategy to invest in new-age technologies. The narrowing of the technological divide has prompted the US to announce its National Security Strategy in 2017, which declares China and Russia as strategic competitors. The document also emphasises the ability of the Pentagon to increase the strategic space for conflict while compressing the window for strategic-operational-tactical reactions.

As the scope of conflict widens from traditional to non-traditional security domains, the core competency of the armed forces will need metamorphosis. Non-Contact warfare is gaining prominence. In non-contact warfare, "the states seek to employ all elements of national power, and the non-state groups attempt to leverage their influence across multiple domains".[14] The target remains "adversary's population, sovereignty, governance structures and economy". It plans to employ both non-military or military non-kinetic and kinetic means. The aim is to intimidate, paralyse or denude politico-military response capabilities and enable winning without fighting or fighting with minimum use of physical contact of own forces. Non-contact warfare can be non-lethal or

lethal and addresses adversaries' sensitivities and vulnerabilities in non-military and military domains. The intent is to keep the response measured and calibrated along the desired escalation matrix to remain ahead in the game of domination. Winning along each ladder of escalation is essential to extract favourable outcomes.

Lessons for India

The shift in operational doctrine from 'massing of forces' to 'massing of effects' with a quantum reduction in physical contact between adversarial forces has been scripted. The pace of technological reforms in stealth, stand-off precision targeting, networked ISR, and autonomous systems have compelled major powers like the US, Russia and China to initiate defence reforms. The overlapping of traditional battlespace of land, seas, air and outer space with the non-battlespace like technological space (cyber and electromagnetic space), social spaces (politics, economics and culture) and cognitive space of the human mind[15] have ensured that virtually every space is being contested with battlefield significance.

Non-Contact warfare riding on technology is set to guide the future strategy. India must investigate the future operational environment and realign its security and technological needs and doctrines. Key areas that need to be addressed are:

- Strategic Security and Defence Review must be undertaken at the earliest by the Defence Planning Committee (DPC) to analyse and evaluate the national defence and security priorities, foreign policy engagement imperatives, intelligence coordination, scientific development priorities enmeshed with academic and industrial incubation centres and assign lead agencies to new sovereign requirements.
- Internal Security remains at the core of security threats to any nation. Hence, it is imperative to institute an agile governance

model through civil service, police and judicial reforms. Strengthen societal protection and oversight mechanism to deal with disasters and disturbances.

- It is important to prioritise preparation for war. The Cabinet Committee approved only three of the last 13 defence five-year plans.[16] Linking capability development with budgetary provisioning is the only way to strengthen the indigenous defence industrial and technological base. Screening of pervasive technologies in critical infrastructures is essential.
- An approach to guard global interests should be based on strategic partnership and the ability to institute a robust and dynamic legal mechanism that proactively anticipates and adapt to technological and macro-cultural changes, which are much harder to predict.
- Aligning structures and business rules in consonance with national security is important. The nature of non-contact warfare demands inter-ministerial, inter-agency coordination and better civil-military integration to allow a plug-and-play inter-operable system driven by processes rather than personalities.

As India progresses, security challenges are bound to increase. Navigating the anarchic international world order will require a stable internal security framework. Non-contact warfare is testing the boundaries of structures and strategy. Adaptation to change is imperative. The words of Alvin and Heidi Toffler remain relevant, "if war was ever too important to be left to generals, it is now too important to be left to the ignorant- whether they wear the uniform or not." India will need to look at the doctrinal approach to security as we have entered the 'era of accelerated human progress (2017 to 2035)' and be prepared to face the challenge as we step into the 'era of contested equality (2035 to 2050)'.

Notes

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